

Comparisons of Job Characteristics

Focus Occupation: [Geoscientists, Except Hydrologists and Geographers \(19-2042\)](#)

Associated Occupation: [Geological and Petroleum Technicians \(19-4041\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 89

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)

Associated Occupation: Geological and Petroleum Technicians (19-4041)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mathematics	9.2	14.8	16.0	0	Current knowledge level may be sufficient
Computers and Electronics	8.4	14.4	15.0	0	Current knowledge level may be sufficient
Engineering and Technology	5.7	12.0	17.8	>>	Current knowledge level is likely more than sufficient
Geography	3.9	11.6	17.4	>>	Current knowledge level is likely more than sufficient
Physics	4.3	11.2	14.4	>>	Current knowledge level is likely more than sufficient
Chemistry	4.8	10.7	10.3	0	Current knowledge level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)

Associated Occupation: Geological and Petroleum Technicians (19-4041)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Science	4.5	9.8	15.1	>>	Skill level is likely more than sufficient
Mathematics	6.2	7.8	9.4	>	Skill level is likely sufficient
Troubleshooting	4.5	6.1	3.1	<<	Extensive development of skills in this area may be required
Equipment Selection	3.3	4.7	1.3	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 95			
Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)					
Associated Occupation: Geological and Petroleum Technicians (19-4041)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Written Comprehension	11.0	13.0	16.0	>	Current ability level is likely sufficient
Oral Comprehension	12.5	12.6	14.8	>	Current ability level is likely sufficient
Oral Expression	12.4	12.3	14.5	>	Current ability level is likely sufficient
Near Vision	11.1	11.1	12.8	>	Current ability level is likely sufficient
Inductive Reasoning	10.2	10.7	13.2	>	Current ability level is likely sufficient
Information Ordering	9.9	10.7	11.4	0	Current ability level may be sufficient
Written Expression	9.8	10.7	14.2	>>	Current ability level is likely more than sufficient
Deductive Reasoning	10.6	10.4	13.0	>	Current ability level is likely sufficient
Category Flexibility	9.0	10.3	12.3	>	Current ability level is likely sufficient
Flexibility of Closure	7.8	9.9	10.1	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	8.4	10.3	>	Current ability level is likely sufficient
Number Facility	6.3	8.4	9.1	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 90
Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042) Associated Occupation: Geological and Petroleum Technicians (19-4041)		
Work Activities	Exclusivity of Activity	
Adhere to safety procedures	12	
Analyze chemical experimental, test, or analysis data or findings	69	
Analyze geological research data	87	
Analyze scientific research data or investigative findings	27	
Analyze technical data, designs, or preliminary specifications	47	
Collect geographic or physical data	81	
Collect scientific or technical data	30	
Collect statistical data	47	
Communicate technical information	4	
Conduct laboratory research or experiments	57	
Conduct standardized qualitative laboratory analyses	62	
Conduct standardized quantitative laboratory analyses	62	

Develop or maintain databases	30
Develop tables depicting data	33
Direct and coordinate activities of workers or staff	3
Explain complex mathematical information	30
Identify properties of rocks or minerals	85
Prepare reports	8
Read technical drawings	7
Record test results, test procedures, or inspection data	48
Test materials or solutions	73
Understand engineering data or reports	48
Use chemical testing or analysis procedures	54
Use computers to enter, access or retrieve data	3
Use knowledge of materials testing procedures	70
Use laboratory equipment	60
Use mathematical or statistical methods to identify or analyze problems	30
Use measuring instruments to collect geological data	89
Use oral or written communication techniques	1
Use physical science research techniques	68
Use precision measuring tools or equipment	17
Use quantitative research methods	35
Use relational database software	26
Use scientific research methodology	21
Use spreadsheet software	18
Use word processing or desktop publishing software	17

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 88

Focus Occupation: Geoscientists, Except Hydrologists and Geographers (19-2042)
Associated Occupation: Geological and Petroleum Technicians (19-4041)

Tools and Technologies	Exclusivity
Audio and visual equipment	4
Business function specific software	1
Cameras	2
Chromatographic measuring instruments and accessories	16
Computer data input devices	2
Computers	1
Content authoring and editing software	1
Crushers and breakers and grinders	56
Crystallography equipment	23
Cutting equipment	56
Data management and query software	1
Electrochemical measuring instruments and accessories	9

Forming tools	2
Gas analyzers and monitors	10
Geography and map skills resources and accessories	51
Geophysical and geotechnical instruments	23
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory boring and grinding and cutting and crushing and pressing equipment	27
Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory mixing and stirring and shaking equipment and supplies	19
Laboratory ovens and accessories	15
Laboratory sieves and sifting equipment and supplies	27
Land surveying instruments	19
Length and thickness and distance measuring instruments	2
Liquid and solid and elemental analyzers	19
Measuring and layout tools	3
Radar and sonar systems and components	24
Rock and strata measuring equipment	47
Rock drills	56
Sampling equipment	12
Seismological instruments	56
Soil measuring equipment	20
Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.